

# Psychological Impacts and Coping Strategies in the Early Period of COVID-19 Pandemic: An Online Self-reported Study in Turkish Child and Adolescent Population

## COVID-19 Pandemisi Erken Döneminde Psikolojik Etkiler ve Başa Çıkma Becerileri: Türk Çocuk ve Ergen Yaş Grubunda Çevrimiçi Bir Ölçek Çalışması

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### ABSTRACT

**Objective:** This study determines the psychological problems and coping strategies of children and adolescents during the lockdown applied in the early period of COVID-19 pandemic in Turkey

**Material and Methods:** The study includes the data of an online self-report questionnaire applied between 12-17th April 2020. The questionnaire consists data about family and peer relationships, online education, psychological responses, activities and newly acquired hobbies during the lockdown.

**Results:** A total of 717 participants, 278 children (mean age 10.36±1.49 years) and 439 adolescents (15.49±1.72 years) participated in online survey. A statistically significant difference was found in the child and adolescent groups in terms of age ( $p < 0.005$ ). Although girls participated in the survey more in both groups, this rate was significantly higher in the adolescent group ( $p = 0.017$ ). Adolescents significantly more communicated with their friends via social media ( $p = 0.000$ ) than children, children had more attention problems in online education than adolescents ( $p = 0.000$ ). Pandemic caused similar-moderate levels of anxiety in children and adolescents, symptoms such as difficulty falling asleep, reluctance and attention problems were significantly more in adolescents, headache, fatigue and weakness were higher in children. During the lockdown, children and adolescents engaged in activities and had new hobbies at a similar rate to reduce their anxiety or spending time at home ( $p = 0.260$ ,  $p = 0.870$ ). While the children mostly spent time with their family, adolescents spent more time with technology and social media.

**Conclusion:** The results of this study based on self-report will provide important data on children and adolescents during the lockdown period. The ongoing COVID-19 pandemic will have long-term effects, and the data of this early study may lead new studies, also the results may assist in taking measures in the field of child and adolescent mental health.

**Key Words:** Adolescent, Children, Coping Strategies, COVID-19 Pandemic, Lockdown, Psychological Effect

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## ÖZ

**Amaç:** Bu araştırmada COVID-19 salgını nedeniyle Türkiye’de erken dönemde uygulanan sosyal kısıtlama sürecinde çocuk ve ergenlerin ruhsal durumları ve baş etme becerileri ele alınmıştır.

**Gereç ve Yöntemler:** Araştırma 12-17 Nisan 2020 tarihleri arasında self-report (öz-raporlama) olarak uygulanan çevrim içi bir anketin verilerini içermektedir. Anket aile ve akran ilişkileri, çevrim içi eğitim, ruhsal yanıtlar, etkinlikler ve yeni edinilen hobilere ilişkin soruları içermektedir.

**Bulgular:** Anketimize 7-12 yaş grubundan 278 çocuk (yaş ort 10.36±1.49 yıl), 13-18 yaş grubundan 439 ergen (15.49±1.72 yıl) olmak üzere toplam 717 kişi katılmıştır. Yaş açısından çocuk ve ergen grubunda istatistiksel olarak anlamlı farklılık saptanmış ( $p < 0.005$ ). Kızların her iki grupta da ankete daha fazla katıldığı gözlenmekle birlikte bu oran ergen grubunda anlamlı olarak daha yüksek olmuştur ( $p = 0.017$ ). Ergenlerin arkadaşları ile sosyal medya üzerinden anlamlı olarak daha fazla iletişim halinde olduğu saptanmış ( $p=0.000$ ), çocuk yaş grubunun ergenlere göre çevrim içi eğitimde daha fazla dikkat sorunları yaşadığı ( $p=0.000$ ) görülmüştür. Pandemi ve karantinanın çocuk ve ergenlerde benzer düzeyde kaygı oluşturduğu gözlenmiş, uykuya dalma zorluğu, isteksizlik ve dikkat sorunları ergenlerde, baş ağrısı, yorgunluk ve halsizlik gibi belirtiler ise çocuklarda anlamlı olarak daha fazla saptanmıştır. Karantina sürecinde çocuk ve ergenlerin kaygılarını azaltmak ya da vakit geçirmek için benzer oranda etkinliklerde bulunduğu ve hobi edindiği gözlenmiştir ( $p= 0.260$ ,  $p=0. 870$ ). Çocuk yaş grubu en çok ailesi ile vakit geçirirken, ergen yaş grubu daha çok teknoloji ve sosyal medya ile vakit geçirmekteydi.

**Sonuç:** Özbildirime dayanan çalışmamızın sonuçlarının karantina döneminde çocuk ve ergenlerle ilgili önemli veriler sağlayacağı düşünülmektedir. Halihazırda devam eden COVID-19 pandemisinin uzun süreli etkilerinin olacağı akla gelmekte, erken dönemde yapılan bu çalışmanın verilerinin yeni çalışmalara öncülük edebileceği düşünülmektedir.

**Anahtar Sözcükler:** Ergen, Çocuk, Baş Etme Stratejileri, COVID-19 Pandemisi, Karantina, Psikolojik Etki

## INTRODUCTION

COVID-19 disease was diagnosed first in Wuhan, China on December 31, 2019, and was soon declared as a public health emergency by the World Health Organization (1). After the first COVID-19 case was seen on 13 March 2020 in Turkey, various policies were taken by the government in many areas. In the first place, primary, secondary and high school education was discontinued and online education was started. Social isolation policies were taken to prevent the spread of the virus, so most of the families had to take a break from their work or started remote working at home. In early April 2020; with the start of the curfew under the age of 20 in Turkey, children and adolescents started to spend all their time at home. Although the presence of all family members at home at same time with the curfew may lead to family unity and closer relationships, it is stated that acute isolation, just like hunger, can cause social craving (2). The prolonged isolation, especially such as the lockdown process, may cause difficulties in the family environment and relationships. Factors such as following the news about the epidemic in all social platforms, fear of having or contacting COVID-19, adaptation process to online education at home, change of duties and responsibilities at home, parents working from home, being a healthcare worker among family members, increasing time spent on social media platforms in this process required. Because individuals will be able to develop different adaptation skills or show psychological responses to all these changing conditions (3,4).

Although it is thought that the COVID-19 epidemic will not affect children much at the beginning, the first data reported from China show that children and adolescents are psychologically affected and had behavioral problems (5,6). Childhood and adolescence are vulnerable two age periods, and it is conceivable that the global COVID-19 pandemic may have different psychological effects in these age groups. The

epidemic and lockdown will have many effects on the daily lives of children and adolescents; such as acute and chronic stress, concerns for the health of their caregivers, having unexpected losses, closure of schools, increased time spent on the internet and social media, changing routines, worrying about the economic future of their family and country (4). In a study conducted in the early stages of the pandemic in our country, families observed many psychological symptoms in their children (7). Nevertheless, all these mental difficulties will be affected by the individual characteristics of children and adolescents in different age groups and the environment they live in (8).

The increasing use of social media can be the main source for the social interaction of children and adolescents during the curfew and lockdown period, and also children and adolescents closely follow the news about daily agenda in this period. However, the increase in the use of social media has negative effects. The information disseminated on social media can increase threat perception and anxiety, and lead to clinically depression and anxiety disorders (9).

Different behaviors such as increased exercise, sleeping, online sociality, smoking and alcohol use were observed in adults during lockdown period in COVID-19 pandemic and these behaviors were evaluated as functional / non-functional coping strategies to reduce anxiety (10,11). The children and adolescents may also show different adaptation skills during this period, but there was no study on this area. During the lockdown period, while the daily routines of children and adolescents changed, while spending the time they allocated to school or friendships at home, it was aimed to contribute to the literature by learning what they did, their activities or hobbies. In addition, it will be important to address the changing family environment, educational conditions and peer relationships during the lockdown and the psychological responses from the

language of the children and adolescents. It is clear that there is a need for community-based studies to be carried out in such a special period. This study is a community-based study planned with the participation of children and adolescents in all areas mentioned above, and our primary aim was to obtain cross-sectional data for age groups, and the other aim was to compare these data.

## MATERIAL and METHODS

This study includes data from an online self-reporting questionnaire prepared by Marmara University School of Medicine, Department of Child and Adolescent Psychiatry. As a study group, researchers tried to reach with online survey children between the ages of 7-12 and adolescents between the ages of 13-18. The questionnaire was first shared with teachers and families via online communication groups, and they were asked to forward it to other groups they were involved in. The study, which was planned as a descriptive cross-sectional study, was approved by Marmara University, Faculty of Medicine, Clinical Research Ethics Committee. (20.05.2020/09.2020.558). Informed consent was obtained from all participants and their parents. The information of the participants was anonymous.

The online survey conducted during the lockdown period (12-17<sup>th</sup> April). The total of the questionnaire consists of 26 questions about sociodemographics, family, peer relations, psychological responses and activities and new hobbies in lockdown. While preparing the questions of the questionnaire with the Google-forms program, the book of the International Association of Child and Adolescent Psychiatry and Allied Professions was used (12).

### Data Analysis

Analyzes were performed with IBM SPSS (Statistical Package Program for Social Sciences) version 22.0. Continuous variables were evaluated with mean ± standard deviation. In the intergroup analysis of continuous variables, normality analyzes were performed with the Kolmogorov-Smirnov Goodness of Fit Test. Mann Whitney U and Student T-tests were used to investigate the difference between the two groups.

## RESULTS

### Sociodemographic Variables

278 children (10.36±1.49 years) in the 7-12 age group and 439 adolescents (15.49±1.72 years) in the 13-18 age group participated in online survey (for age p<0.005). In the children group, 147 girls and 131 boys completed the questionnaire, while in the adolescent group, this ratio is 272 girls and 167 boys. The girls participated in the questionnaire more in two

**Table I: Psychological responses during the COVID-19 outbreak.**

Participants	n	Mean±SD	p
Would you rate the anxiety caused by the epidemic?			
Children	276	3.536±1.3384	0.220
Adolescents	436	3.413±1.2573	
Are you having difficulty falling asleep or having nightmares lately?			
Children	276	2.333±1.3769	0.001
Adolescents	435	2.717±1.6251	
How has your appetite changed recently?			
Children	277	2.874±1.0436	0.870
Adolescents	437	3.011±1.0503	
How often do you research about the pandemic?			
Children	273	2.238±1.2478	0.740
Adolescents	427	2.208±1.0989	
Do you ever have headache, fatigue, weakness?			
Children	278	2.43±0.5897	0.000
Adolescents	435	2.147±0.6557	
Do you ever feel reluctant to usual activities and not focus on your homework in the lockdown?			
Children	275	2.455±1.3457	0.000
Adolescents	426	3.164±1.3945	

1: none, 2: mild, 3: moderate, 4: quite, 5: much, **SD**: Standart deviation, Student T test.

**Table II: Education and peer relations in the lockdown.**

Participants	n	Mean±SD	p
How upset you are that schools were closing and being separated from your friends?			
Children	278	3.658±1.3523	0.200
Adolescents	436	3.523±1.3936	
Do you find it difficult focusing on online education?			
Children	275	3.549±1.3777	0.000
Adolescent	433	2.880±1.3538	
Do you regularly do your online homework and follow your teachers' directions?			
Children	276	4.094±1.2023	0.000
Adolescent	432	3.227±1.3382	
How does it feel to meet your friends online or on social media?			
Children	255	3.906±1.2163	0.530
Adolescents	430	3.849±1.1232	

1: none, 2: mild, 3: moderate, 4: quite, 5: much, **SD**: Standart deviation, Student T test.

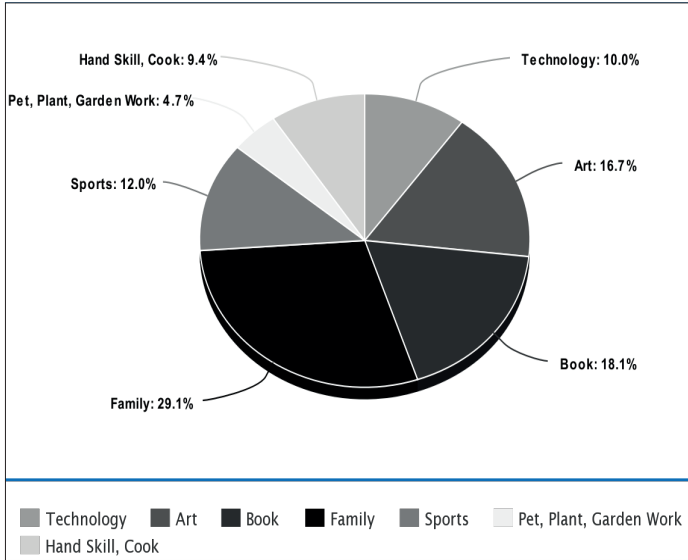


Figure 1: Children's activities in the lockdown.

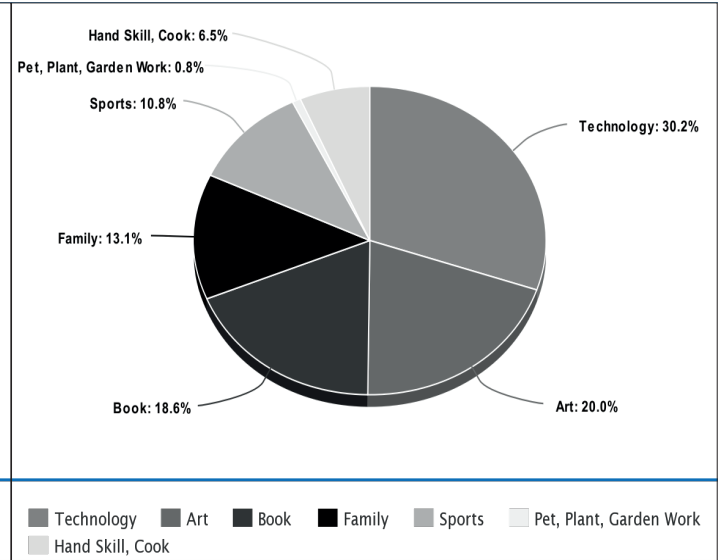


Figure 2: Adolescents' activities in the lockdown.

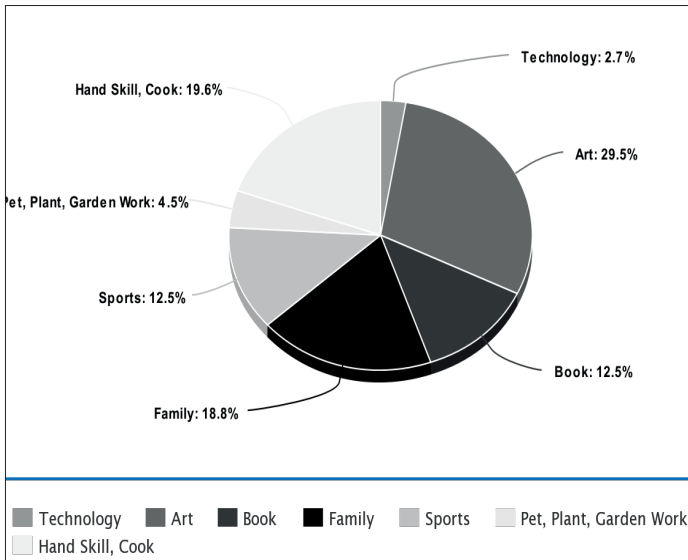


Figure 3: Children's new hobbies in the lockdown.

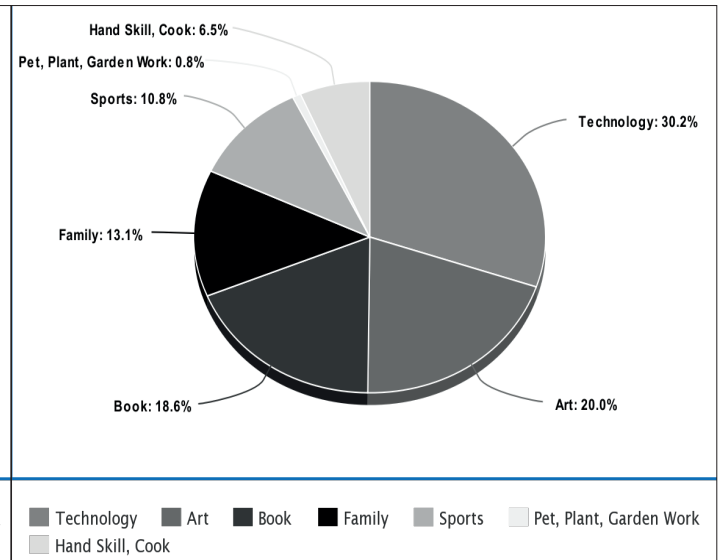


Figure 4: Adolescents' new hobbies in the lockdown.

groups, and a significant difference was observed between the groups in terms of gender ( $p = 0.017$ ). While the majority of the child participants resided in Istanbul, Ankara or Izmir (3 metropolitan cities in Turkey), the majority of the adolescent participants were living in cities other than Istanbul, Ankara and Izmir ( $p = 0.000$ ). 62 of the children group and 109 of the adolescent group have healthcare workers in their families ( $p = 0.430$ ).

### Family Environment and Relationships

Regarding the question about whether they were separated from family members during the lockdown, 233 participants in the children group answered 'no', this rate was 382 in the adolescent group, and there was no difference between the groups ( $p=0.260$ ). The mean of the answers given to fear of

having family members' COVID-19 were found to be  $3.55 \pm 1.43$  in children and  $3.44 \pm 1.33$  in adolescents. It was observed that children had more fear than adolescents ( $p=0.300$ ). 'Are you spending enough time with your family?' the answers to this question were 'yes' at a high rate in both groups, but no difference was found ( $p=0.860$ ). The children and adolescents who answered 'no' to this question have been asked to choose one or more of 8 reasons as answers (We are not at the same house because they are healthcare workers, they have to take care of housework, they have to work from home, they are interested in the care of my other siblings, they are constantly following the news about the epidemic on television and the press, communicating with my friends on social media takes time, online education and lessons take my time, they have another). 44% of the children and 47.7% of the adolescents



who think that they cannot spend enough time with their families say that online education and lessons take their time, the rates of following news on television and the press were like 45.9% and 40.3%, take care of housework rates were like 52.3% and 43.8% in the child and adolescent groups, respectively.

### Psychological Responses

Pandemic and lockdown cause similar-moderate levels of anxiety in children and adolescents, symptoms such as difficulty falling asleep, reluctance and attention problems were significantly more in adolescents, and headache, fatigue and weakness were found significantly higher in children (Table I). Following the questions about psychological responses, the participants were asked 'Would you like to get psychological professional help at the end of the lockdown?' 85 participants in children group and 111 participants in the adolescent group said 'yes', no significant difference was found between the groups ( $p=0.140$ ), and psychological help-seeking was less in both groups.

### Education and Peer Relations in the Lockdown

During the lockdown, 192 of the children and 419 of the adolescents stated that they communicated with their friends via social media (such as whatsapp, instagram, facebook). The adolescents were in more communication with their friends via social media ( $p = 0.000$ ) (Table II).

### Activities and New Hobbies in the Lockdown

The participants were asked 'Do you have activities to reduce your anxiety or spend time in this process?' the answers to this question (yes / no) were examined, 204 children said 'yes', and 299 adolescents said 'yes', and there was no difference between the groups in terms of activities ( $p=0.260$ ). The answers to the open-ended question asked to those who answered 'yes' are shown separately in the child and adolescent group in graph form (Figure 1-2). The participants reported more than one answer. While the children group mostly spent time with their family, the adolescent group spent more time with technology.

The participants were asked 'Have you acquired any new hobbies to reduce your anxiety in lockdown?' the answers to this question (yes / no) were examined, 108 children said 'yes', 165 children said 'no', and 175 adolescents said 'yes' and 260 adolescents said 'no', and there was no difference between the groups in terms of acquiring a new hobby ( $p=0.870$ ). The answers to the open-ended question asked to those who answered 'yes' are shown separately in the child and adolescent group in graph form (Figure 3-4). The participants reported more than one answer. The answers given are also grouped within themselves. As an example of the answers given; individual and family games such as lego, board-box games, painting (mandala, oil painting), learning to play guitar, violin, dancing, sports, watching movies, growing plants, experiments, learning to cook, book. Both children and adolescents have a low rate of acquiring new hobbies during the lockdown.

## DISCUSSION

The results of this online self-reporting study showed that children and adolescents experienced changes in family and friend relationships during the lockdown, had difficulties in online education, changed their daily routines and engaged in many activities to reduce their anxiety and spending time at home. In addition, they expressed that they complained many psychological symptoms. The high number of adolescents participating in this study spent more time on social media and internet, and it was also found that adolescents communicated significantly more with their friends through social media than children. This situation may have been caused by the adolescent group to have their own mobile phones and to be able to access technology and internet platforms more easily as of their age. Also, similar to the results of our study, in a study conducted in our country, researchers found that adolescents spend most of the day in front of the screen during the pandemic period (13). The fact that adolescents spend more time on online platforms may have become a coping strategy or an effort to create personal space for themselves. However, spending too much time on online platforms during the lockdown may increase the perception of threats and level of anxiety and these may cause psychological disorders (14).

The health care workers were few in the families of the participants, and also the participants experienced moderate fear of their families having COVID-19, including more in the child age group. This may have been caused by the online survey being applied about 3 weeks after the lockdown began. According to the results of another online survey conducted during the same period, the level of anxiety of children and adolescents during the lockdown and the frequency of following the news and agenda associated with COVID-19, decreased at the end of lockdown (15). In addition, the resilience levels of the participants, the supportive environment they live in, and their family relationships may have caused their anxiety level to be at a moderate level.

The COVID-19 pandemic and lockdown may lead to many cognitive, emotional, social and physical stress responses in children and adolescents. Symptoms such as attention and memory problems, social withdrawal, somatic symptoms, sleep and appetite problems, behavioral and temperament changes, being more angry can be observed. In addition, stress factors such as the long process of the pandemic, the continued fear of having infection, the spreading information about the epidemic, not being able to communicate face to face with classmates and teachers, lack of personal space at home, economic difficulties and tensions that can lead to domestic violence can make this period different from other stressful life periods. In this study, children and adolescents complained about many psychological symptoms, difficulty getting asleep, reluctance and attention problems were significantly more common in adolescents and symptoms such as pain and weakness were

significantly more common in children. These symptoms may be precursor symptoms of psychiatric diagnoses. Studies have shown that the COVID-19 pandemic leads to symptoms of depression and anxiety, and those who describe these symptoms have a level of clinically diagnosed symptoms (16,17). At the end of the lockdown, psychological professional help-seeking was low in both children and adolescents, and this may have been caused by the fear of contracting COVID-19 in hospital admissions, not paying attention to psychological symptoms as much as physical symptoms, cost factors, lack of awareness and stigma. It is also stated that trusting in medical institutions decreased during these period in all around the world and this pushed individuals not to seek help (18). Although the children group experienced significantly more attention problems in online education than adolescents, but they did more homework in online education and adapted more to the instructions of their teachers. Considering that face-to-face education is more efficient for children, and skills such as school and classroom adjustment, studying, and homework are acquired during primary school, it is clear that children will experience more difficulties in this period than adolescents.

The functional and non-functional coping strategies used when faced with any stressful life events can be different in every child and adolescent. These coping strategies may be affected by the individual, family characteristics and environmental support of children and adolescents (19,20). Decreased peer and teacher support during this period, the change of family relations, increasing tensions may affect coping (11). The burnout in parents increases during the lockdown and this also negatively affects the parent-child/adolescent relationship (21,22). In a multicenter study conducted in our country, the anxiety levels of parents are high in the pandemic, and low education level and being at a young age increase the level of anxiety. (23).

In our study, children and adolescents do many activities to reduce their anxiety or spending time at home, while the children group spent more time with their parents, the adolescent group spent time with technology. At the same time, the majority of participants considered spending enough time with their family. The adolescent group may have preferred to spend more individual time or be in relationships with their peers through technology due to their age period features. In this period, the low rate of hobby acquisition may be related to the difficulty of accessing training and materials for the hobbies researched, or the uncertainty of lockdown and pandemic process may have made it difficult to start a new activity, and more time was spent with routine or usual activities.

This study has some limitations. These limitations include the lack of evaluation of psychological symptoms and coping strategies with a valid self-report measures, the lack of clinically re-evaluation of this data and the lack of information from parents. In addition, the participants generally live in metropolitan cities and the difficulties in the countryside are not addressed, this is preventing the generalisation of the study's

data. Nevertheless the results of this study can help to plan early what can be done in similar pandemics. It can contribute to creating new policies in the field of education and mental health. The development and dissemination of services similar to the telemedicine intervention for children with special needs, which were successfully carried out in the early period of the pandemic in Turkey, may help children and adolescent age groups who stay at home during the quarantine period (24). In addition, these results will help clinicians to predict the long-term consequences of symptoms seen in the early stages of pandemic. Long-term follow-up studies are needed in this area.

## CONCLUSION

The data obtained through self-reporting would contribute to the literature for children and adolescents living both in Turkey and other countries of the world in the early part of the pandemic and could lead new studies. Also the questions of the online survey may help to develop the awareness of the participants about psychological symptoms and may encourage them to seek psychological help.

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